

PATENT SPECIFICATION



Application Date: July 26, 1922. No. 20,474 / 22.

201,036

Complete Left: April 21, 1923.

Complete Accepted: July 26, 1923.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Tooth Brushes.

We, HENRY JAMES WAITE, of 62, Bournemouth Road, Peckham, London, S.E., and WILLIAM HENRY EDEY, of 26, St. Georges Buildings, Hayles Street, London, S.E. 11, both subjects of the King of Great Britain and Ireland, do hereby declare the nature of this invention to be as follows:—

The present invention relates to improvements in tooth brushes, and is designed to provide convenient means whereby the brush can be rotated in the mouth of the user.

The instrument forming the present invention comprises a frame having mounted thereon brackets adapted to support a brush shaft carrying a centrally arranged pinion. This spindle is provided at its ends with sockets adapted to receive the spindle of a rotary brush. This brush is preferably so shaped that its bristles extend over the free end of the brush spindle. A sliding rack is mounted in the frame work supporting the brush shaft. This rack is conveniently moved by means of a suitable handle projecting from the back of the rack. When in position the rack is in engagement with the teeth of the central pinion on the brush shaft and is adapted to be moved up and down by its handle in the frame supporting the brush shaft, in order to rotate the brush shaft and the brush, if the latter is in position in one or other of the brush sockets at the ends

of the shaft. A pivotal member is mounted on the back of the brush frame adapted to be turned on its pivot to such an angle as to lie behind and in close proximity to the brush when the latter is in position in one or other brush sockets. This member is adapted to protect the internal surface of the cheek of the user from the bristles of the brush.

In order to use the instrument, the user first places the brush spindle in the right or left hand brush socket, then turns the cheek protector to a position behind the brush and places the brush and protector in his mouth and rotates the brush by moving the rack in the brush frame up and down by means of the projecting handle at the back of the rack. During the rotation of the brush the protector keeps the internal surface of the cheek away from the brush bristles. When he has cleaned the teeth on one side of his mouth, he removes the brush from that side of the brush frame, and places it in the socket on the other side of the frame, then turns the protector over to a position behind the brush on that side and then repeats the operation.

Dated the 26th day of July, 1922.

SEFTON-JONES, O'DELL & STEPHENS,

Chartered Patent Agents,
285, High Holborn, London, W.C. 1,
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in and relating to Tooth Brushes.

We, HENRY JAMES WAITE, of 62, Bournemouth Road, Peckham, London, S.E., and WILLIAM HENRY EDEY, of 26, St. Georges Buildings, Hayles Street, London, S.E. 11, both subjects of the King of Great Britain and Ireland, do hereby declare the nature of this invention and in what manner the same is

[Price 1/-]

to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to rotary tooth brushes of the type in which a brush provided with a guard is adapted to be rotated by a rack and pinion mechanism.

In such brushes of this type as have been previously proposed the rack is returned by spring means and is arranged perpendicular to the handle, which is in line with the brush spindle. The spring return has the disadvantage that a very powerful spring is necessary to overcome the friction of the brush against the teeth while the arrangement of the rack and handle together, with the large effort required to overcome the tension of the spring render the use of such a handle extremely awkward, so that the brush cannot be properly manipulated in the mouth.

The present invention has for its object a brush in which the spring return is dispensed with and which can be conveniently manipulated in use.

According to the present invention a brush of the type set forth has the rack arranged axially of the handle and the brush spindle arranged transversely of the handle, the rack being manually operated in both directions. In order to use the brush on either side of the mouth, means are provided for reversing the brush and the guard.

Embodiments of the invention are illustrated in the accompanying drawings, in which

Figure 1 shows a front view of one form of brush according to the invention.

Figure 2 shows a back view of Figure 1.

Figure 3 shows a part sectional view taken on the line A—A of Figure 1.

Figure 4 shows a plan view of the cheek protecting member.

Figure 5 shows a side view of a modified form of brush according to the invention.

Figure 6 shows a longitudinal sectional view of the modified form of brush with all the parts enclosed in the handle.

Figure 7 shows a plan view partly in section of Figure 5, and

Figure 8 shows a sectional view taken on the line B—B of Figure 7.

Referring now more particularly to Figures 1—4, the instrument comprises a handle or standard 1 channelled and grooved to allow a rack 2 to slide in it. At one end is fixed a frame 3 having a pair of brackets 4 adapted to support a brush shaft 5 carrying a centrally attached pinion 6. This pinion is

attached to the shaft 5 by means of a pin 7 projecting into the shaft 5 which is made hollow. The brush proper 8 is carried on a shaft 9 adapted to fit into either end of the shaft 5, a suitable end slot engaging the pin 7, so that the brush is driven by the shaft 5. The pinion 6 engages through a slot 11 in the handle 1 with the rack 2 which has an end upturned to form an operating handle 10. As shown, the rack comprises a series of equidistant holes matching the pinion teeth in pitch, but obviously this construction can be considerably modified, for example, the rack might be provided with teeth. The series of holes finish well inside the ends of the rack 2, so that the rack cannot be inadvertently removed. A slot 14 is formed in the back of the frame 3 so as to take, on either side, the end 12 of a member 13 adapted to protect the internal surface of the cheek of the user from the bristles of the brush.

Referring now more particularly to Figures 5—8, the brush handle is in the form of a box 20 adapted to contain all the parts when the brush is not in use, as shown in Figure 6. A hole 15 is formed on one side and a slot 16 on the other, into which the hollow shaft 17 of a pinion 18 is placed and the pinion is rotated as in the first described embodiment by a handled rack 19, working in the box 20. The brush and means of driving it from the pinion take the same form as described above, and a slot 22 is provided behind the pinion to take the cheek protector shown in Figure 4.

In order to use the instrument, the user first places the brush spindle in the right or left hand end of the shaft and the protector into the slot in the corresponding side, and places the brush and protector into his mouth and rotates the brush by moving the rack up and down by means of the operating handle. During the rotation of the brush, the protector keeps the internal surface of the cheek away from the brush bristles. When he has cleaned the teeth on one side of his mouth, he removes the brush and protector from that side of the instrument and replaces them on the other side and repeats the operation.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A rotary tooth brush of the type set forth, in which the rack is arranged axially of the handle and the brush spindle transversely of the handle, the

rack being manually operated in both directions.

2. A tooth brush as claimed in Claim 1, in which means are provided for reversing the brush and guard, so that it may be used on either side of the mouth.

3. A tooth brush as claimed in Claim 2, in which the pinion shaft is hollow and has a driving pin therein adapted to engage a slot in the shaft of the brush.

4. A tooth brush as claimed in any of the preceding claims, in which the handle of the brush is adapted to serve as a box

to contain the parts of the brush when not in use.

5. The tooth brushes constructed and operated substantially as described with reference to Figures 1—3 and Figures 5—8 of the accompanying drawings.

Dated this 21st day of April, 1923.

SEFTON-JONES, O'DELL &
STEPHENS,

Chartered Patent Agents,
285, High Holborn, London, W.C. 1,
Agents for the Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1923.

[This Drawing is a reproduction of the Original on a reduced scale.]





